Amendments to the Claims:

Please amend claims 1, 29, and 34 and cancel claims 30-33 and 35-41. All pending claims are reproduced below, including those that remain unchanged.

1. (Currently amended): A method for shaping a surface of a workpiece, comprising:

placing the workpiece in a plasma processing chamber including an inductively-coupled plasma (ICP) torch, which does not require an electrode;

translating at least one of the workpiece and the plasma torch; and

using reactive atom plasma processing that:

transfers energy from a radio frequency (RF) power source to excite a plasma gas and a precursor in the plasma torch;

sustains a plasma discharge through collisions between the excited precursor and the plasma gas; and

shapes the surface of the workpiece ~~via sub-aperture plasma processing with~~ by controlling a footprint of the plasma discharge from the plasma torch; and

directs the plasma discharge to a target portion of the surface of the workpiece.

2 (Previously presented) A method according to claim 1, wherein the step of using reactive plasma processing to shape the surface of the workpiece comprises causing minimal or no damage to the workpiece underneath the surface.

3 (Original) A method according to claim 1, wherein the step of using reactive plasma processing to shape the surface of the workpiece comprises removing material from the surface of the workpiece.

4. (Original) A method according to claim 1, further comprising:

rotating the workpiece with respect to the plasma torch.

5. (Previously presented) A method according to claim 1, wherein the step of plasma processing uses the plasma discharge that is a reactive species.

6. (Previously presented) A method according to claim 1, further comprising:

placing the precursor in a central channel of the plasma torch.

7. (Previously presented) A method according to claim 1, further comprising:

placing the precursor in the plasma torch and creating a reactive species in the plasma torch.

8. (Previously presented) A method according to claim 1, further comprising:
using an argon gas as the plasma gas.

9. (Previously presented) A method according to claim 1, further comprising:
controlling the mass flow of the precursor into the plasma torch.

10. (Previously presented) A method according to claim 1, further comprising:
controlling the mass flow of the precursor into the plasma torch from between about 0 ml/min to about 2,000 ml/min.

11. (Previously presented) A method according to claim 1, further comprising:
controlling the mass flow of the precursor into the plasma torch from between about 0 ml/min to about 50,000 ml/min.

12. (Previously presented) A method according to claim 1, further comprising:
selecting a concentration of the precursor to be introduced into a central channel of the plasma torch.

13. (Previously presented) A method according to claim 1, further comprising:
introducing the plasma gas through an outer tube of the plasma torch.

14. (Previously presented) A method according to claim 1, further comprising:
coupling the RF energy to the plasma discharge in an annular region of the plasma torch.

15. (Original) A method according to claim 1, further comprising:
introducing an auxiliary gas through a second of three concentric tubes in the plasma torch.

16. (Previously presented) A method according to claim 1, further comprising:
using an auxiliary gas to keep the plasma discharge away from a central channel of the plasma torch.

17. (Previously presented) A method according to claim 1, further comprising:
using an auxiliary gas to adjust the position of the plasma discharge.

18. (Previously presented) A method according to claim 1, further comprising:
controlling the size of the plasma discharge by selecting the inner diameter of an outer tube of the plasma torch.

19. (Previously presented) A method according to claim 1, further comprising:
introducing the plasma gas tangentially.

20. (Previously presented) A method according to claim 1, further comprising:
metering the precursor and/or the plasma gas flow in the plasma torch.

21. (Previously presented) A method according to claim 1, further comprising:
maintaining the temperature of the plasma torch between 5,000 and 15,000 degrees C.

22. (Previously presented) A method according to claim 1, further comprising:
producing a volatile reaction product on the surface of the workpiece.

23. (Original) A method according to claim 1, further comprising:
maintaining the processing chamber at about atmospheric pressure.

24. (Previously presented) A method according to claim 1, further comprising:
cleaning the surface of the workpiece with the plasma torch.

25. (Previously presented) A method according to claim 1, further comprising:
polishing the surface of the workpiece with the plasma torch.

26. (Previously presented) A method according to claim 1, further comprising:
planarizing the surface of the workpiece with the plasma torch.

27. (Previously presented) A method according to claim 1, further comprising:
using a plasma torch with a multiple head to increase an etch rate of the plasma torch.

28. (Previously presented) A method according to claim 1, further comprising:
using the precursor to control an etch rate of the plasma torch.

29. (Currently amended) A method according to claim 28, ~~further comprising~~ wherein:
~~using~~ the precursor ~~being~~ is any one of a solid, liquid, and gas.

30.-33. (Canceled)

34. (Currently amended) A method for shaping an optic, comprising:

placing an optic workpiece in a plasma processing chamber including an inductively-coupled plasma (ICP) torch, which does not require an electrode ;

translating at least one of the optic workpiece and the plasma torch; and

using reactive atom plasma processing that:

transfers energy from a radio frequency (RF) power source to excite a plasma gas and a precursor in the plasma torch;

sustains a plasma discharge through collisions between the excited precursor and the plasma gas; and

shapes the surface of the optic workpiece ~~via sub-aperture plasma processing with~~ by controlling a footprint of the plasma discharge from the plasma torch; and

directs the discharge to a target portion of the surface of the optic workpiece.

Claims 35.-41. (Canceled)